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# **WATER SUPPLY OUTLOOK FOR ARIZONA**



**U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE**

Collaborating with

**SALT RIVER VALLEY WATER USERS ASSOCIATION**

and

**ARIZONA WATER COMMISSION**

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

AS OF  
**MAR. 1, 1977**

## TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

*COVER PHOTO: SNOW COURSE MEASUREMENTS BY A SURVEY TEAM IN UTAH'S WASATCH RANGE.*  
ORC-254-10

### PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, 6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

### PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia





# **WATER SUPPLY OUTLOOK FOR ARIZONA**

and  
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

*Issued by*

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ADMINISTRATOR  
SOIL CONSERVATION SERVICE  
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ARIZONA WATER COMMISSION

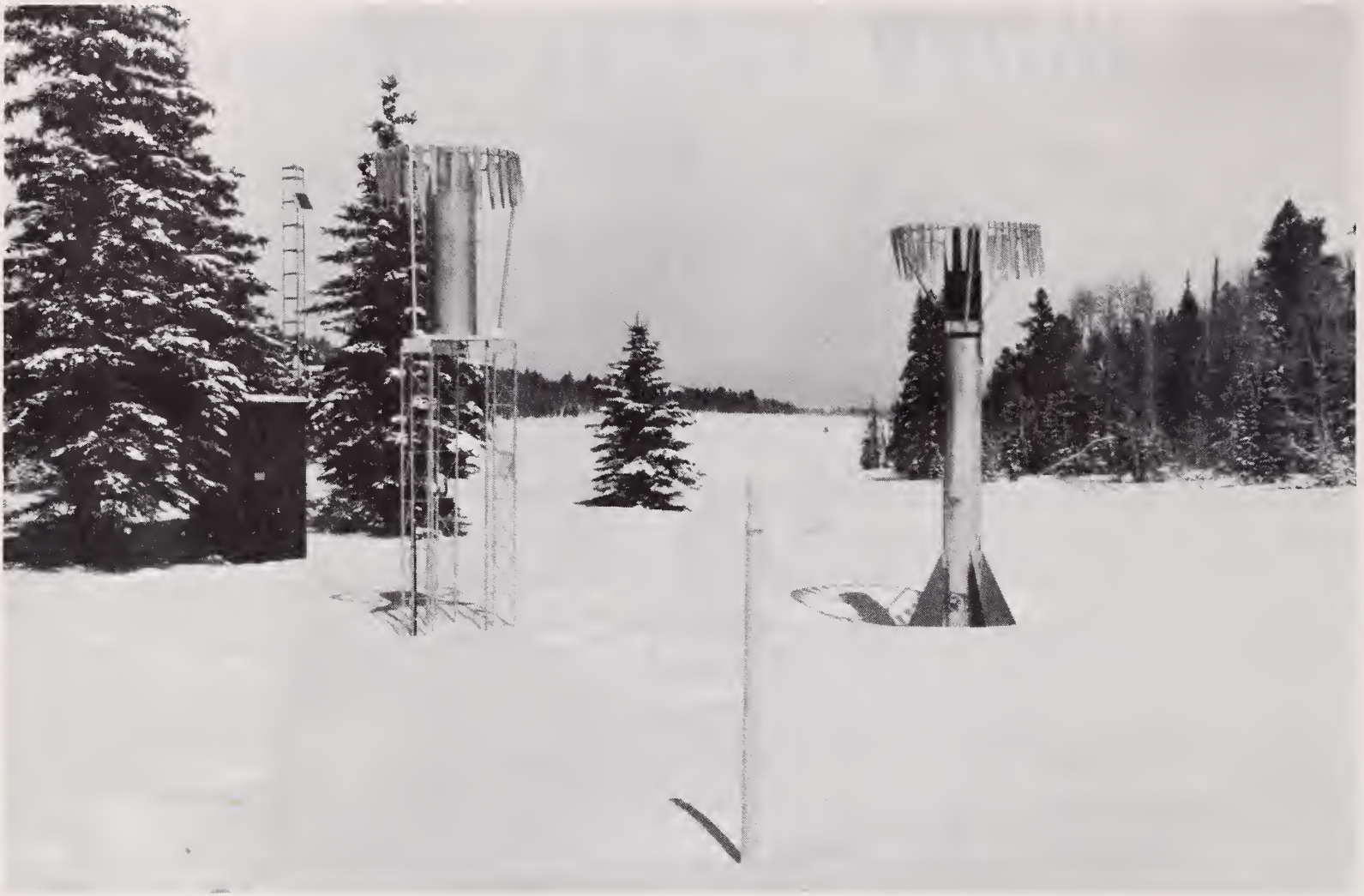
**KARL F. ABEL**  
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SALT RIVER VALLEY WATER  
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*Report prepared by*

**RICHARD W. ENZ, Snow Survey Supervisor**

SOIL CONSERVATION SERVICE  
ROOM 3008 FEDERAL BUILDING  
PHOENIX, ARIZONA 85025



*Baldy Snotel data site - left to right: shelter, tower, isotopic precipitation gage, isotopic snow sensor and missile precipitation gage.*

ARIZONA SUMMARY  
as of  
MARCH 1, 1977

IN GENERAL, THE WATER SUPPLY OUTLOOK  
FOR ARIZONA IS POOR.

SNOW COVER IS HALF OF NORMAL AND SPRING  
RUNOFF IS PREDICTED TO BE LESS THAN  
ONE-THIRD OF AVERAGE.

## SNOW COVER

Although snow cover increased slightly at the higher elevations, most snow courses measured declines during February. The extremely warm temperatures during the first three weeks of the month melted most of the snow at the lower elevations. The storm of February 25 and cold temperatures since, however, have slowed the snowmelt temporarily. Snow cover now varies from 45% of average on the Salt and Gila Watersheds to 60% on the Verde.

## PRECIPITATION

Storm activity increased the last week of February, but precipitation on all watersheds ended up much below average for the month. The Salt and Verde Watersheds received one-half of average, while the Little Colorado and Gila fared only slightly better. Amounts of 1 to 2" were common at the higher elevations and 1/2" to 1" at the lower. Since November 1 all watersheds have received just about half of normal amounts of precipitation.

## SOIL MOISTURE

Soil moisture has improved significantly at the lower elevations due to the recent storm and melting snow. At the higher elevations, however, dry conditions still prevail. Moderate storms in the next few weeks should yield good runoff from the lower elevations, but at the higher elevations much of the snow water will be absorbed by the soil this year.

## RESERVOIR STORAGE

Reservoir storage varies from a nearly empty San Carlos Reservoir to above average conditions in Lyman Reservoir. Salt River Project reservoirs are about half full, which is only slightly below normal for this date. The most favorable water supplies occur on the Colorado River, where the combined reservoir storage is now 57% above average.

## STREAMFLOW AND WATER SUPPLY

Melting snow and recent storms have had little effect on streamflow. Combined runoff of the Salt River Project streams was 30% of average during February, and the Gila River flow was only 20% of average. Much below average spring runoff is anticipated this year. For the March through May period streamflow forecasts range from 1/4 of average on the Gila to 1/2 of average on the Verde. The Colorado River is also expected to produce less than half the normal amount of water this year.

With moderate reservoir storage in most areas, water supplies will generally be adequate yet this year. San Carlos, with its nearly empty reservoir, however, will be very short and areas such as the Upper Gila that are dependent upon direct diversion from live streams, will also be very short. If dry conditions continue throughout next winter, however, most of the state will be short of water next year. Conservation of water is strongly urged this season to reduce the impact on next year.



ABOUT MARCH 1,  
1977

# STREAMFLOW FORECASTS

STREAMFLOW FORECASTS		1977		THIS YEAR		PAST RECORD	
BASIN, STREAM and/or FORECAST POINT		FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET		
		Thousand Acre Feet	Percent of Average		Last Year	Average †	
<u>SALT RIVER DRAINAGE</u>							
Salt near Roosevelt		75	33	Mar-May	67.0	224.6	
Salt near Roosevelt		28	34	March	35.5	81.9	
Tonto Creek near Roosevelt		6	26	Mar-May	20.0	23.1	
Tonto Creek near Roosevelt		3	20	March	5.84	14.7	
Verde River above Horseshoe		55	48	Mar-May	130.2	114.4	
Verde River above Horseshoe		28	46	March	46.8	60.4	
Total Salt River Project Streams		136	38	Mar-May	217.2	362.1	
Total for March		59	38	March	88.1	157.0	
<u>GILA RIVER DRAINAGE</u>							
Gila River at Calva		6	11	Mar-May	8.7	54.9	
Gila River near Gila		15	39	Mar-May	23.3	38.3	
Gila River near Solomon		21	23	Mar-May	38.4	90.5	
Gila River near Solomon		6	13	March	15.1	46.2	
Gila River near Virden		11	24	Mar-May	26.1	46.0	
Frisco River at Clifton		10	21	Mar-May	17.6	46.9	
Frisco River at Glenwood		4	19	Mar-May	35.6	20.6	
<u>LITTLE COLORADO RIVER DRAINAGE</u>							
Little Colo. River above Lyman Dam		1.3	13	Mar-June	6.2	9.8	
Greer 1/		3.0	45	Mar-June	3.3	6.6	
Lake Mary Inflow		1.1	30	Mar-May	---	3.7	
<u>GRANITE CREEK DRAINAGE</u>							
Granite Creek		0.7	---	Mar-May	---	---	
Willow Creek		0.4	---	Mar-May	---	---	
<u>MIMBRES RIVER DRAINAGE</u>							
Mimbres River near Mimbres		0.9	29	Mar-May	1.5	3.1	
<u>COLORADO RIVER DRAINAGE</u>							
Virgin River nr. Littlefield		11	25	Apr-June	18.9	43.2	
The Gila River near Solomon is expected to flow above 100 cfs until April 10.							
1/ Includes Filler Ditch Diversion							
† Based on 15-year period, 1958-72							
* Average is for less than 15 years							



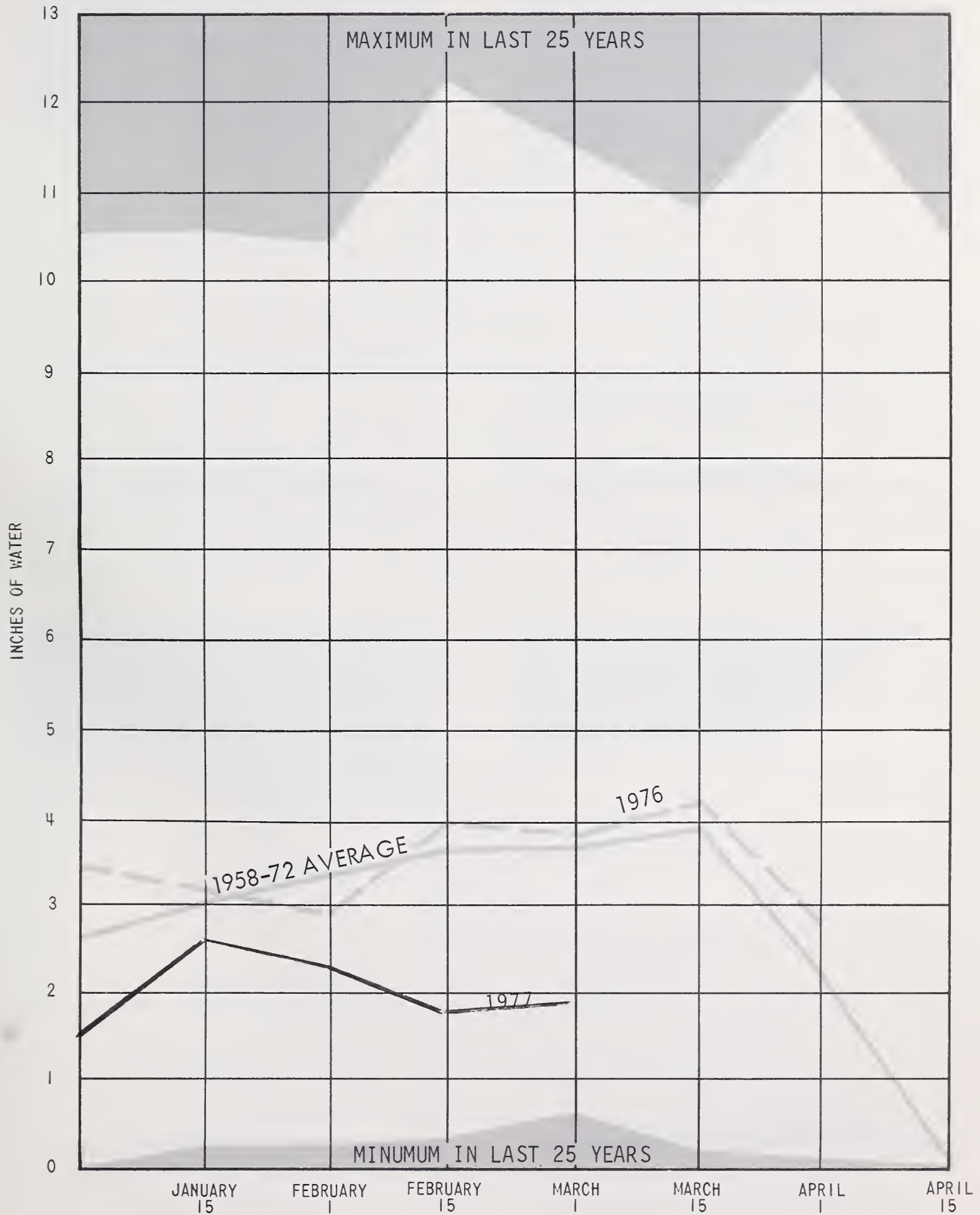
## RESERVOIR STORAGE (Thousand Acre Feet) END OF MONTH

ABOUT MARCH 1, 1977

BASIN or STREAM	RESERVOIR	Usable Capacity	Usable Storage		
			This Year	Last Year	Average†
<u>GILA RIVER DRAINAGE</u>					
Agua Fria	Lake Pleasant	157.6	32.7	50.6	61.0
Granite	Watson Lake	4.7	2.3	4.5	3.1*
Granite	Willow Creek	6.1	1.2	2.6	2.9*
Gila	San Carlos	1,093	11.9	131.8	190.5
Salt (4)	Roosevelt, Apache, Canyon & Saguaro	1,755	949.5	1,129.4	1,109
Verde (2)	Bartlett and Horseshoe	317.7	34.7	161.3	145.1
Salt and Verde	6 Salt River Project Reservoirs	2,073	984.2	1,290.7	1,254
<u>COLORADO RIVER DRAINAGE</u>					
Colorado	Lake Havasu	619.4	550.2	559.6	539.2
Colorado	Lake Mohave	1,810	1,670.6	1,681	1,689
Colorado	Lake Mead	26,159	21,844.0	20,528.0	17,224
Colorado	Lake Powell	25,002	17,985.0	19,838.0	7,347*
Little Colorado	Lyman	30.6	15.4	21.2	13.4
Little Colorado	Show Low Lake	5.1	0.8	1.8	2.0
† Based on 15-year period, 1958-72					
* Average is for less than 15 years of record					



# AVERAGE SNOW COVER ARIZONA 1977



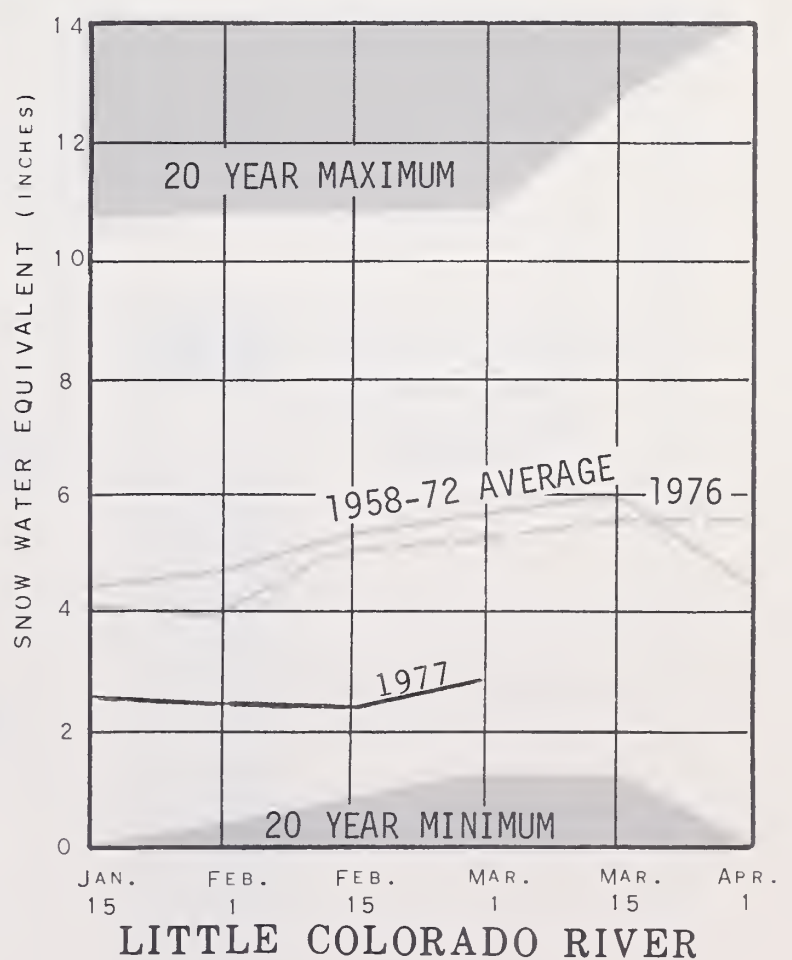
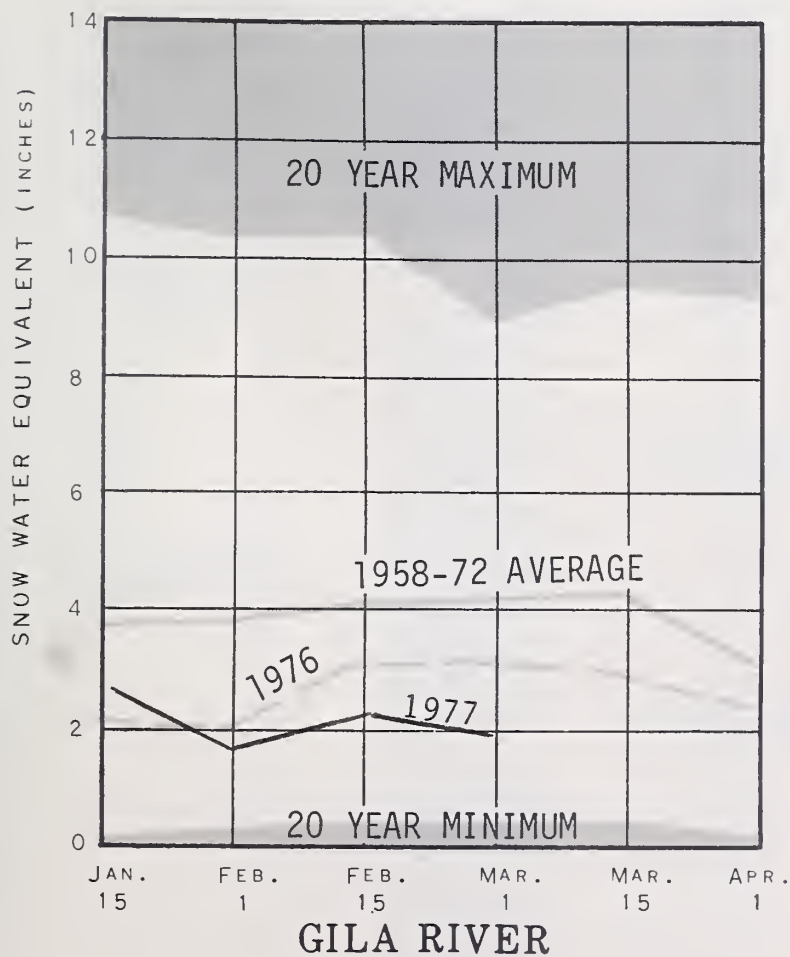
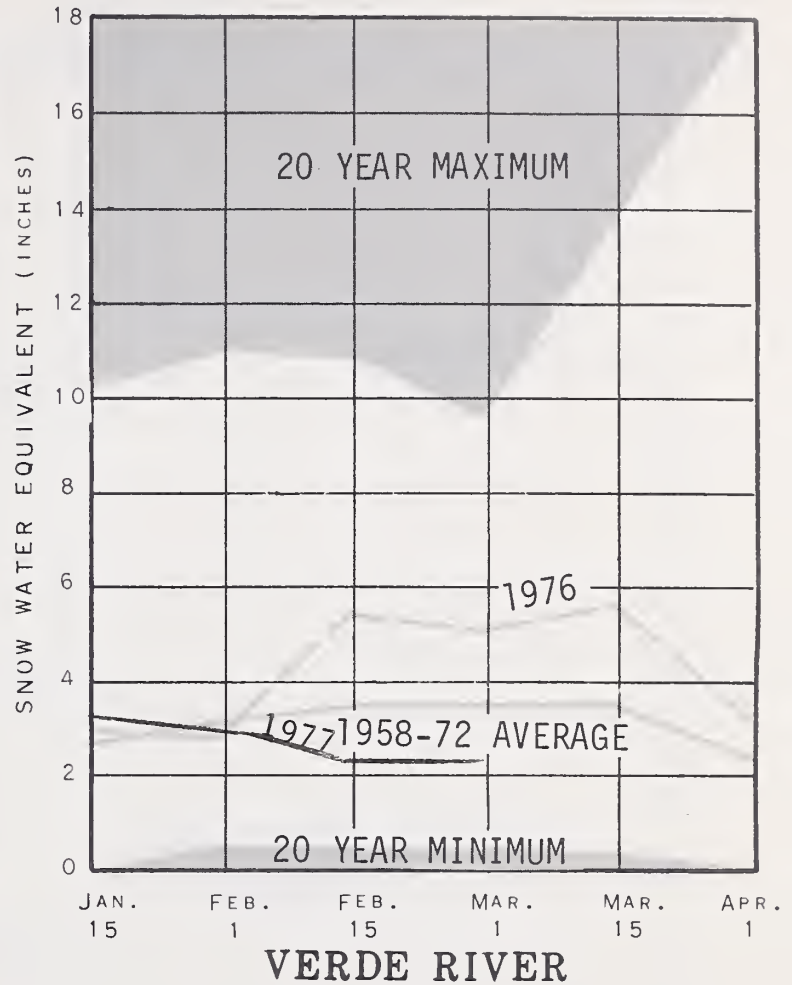
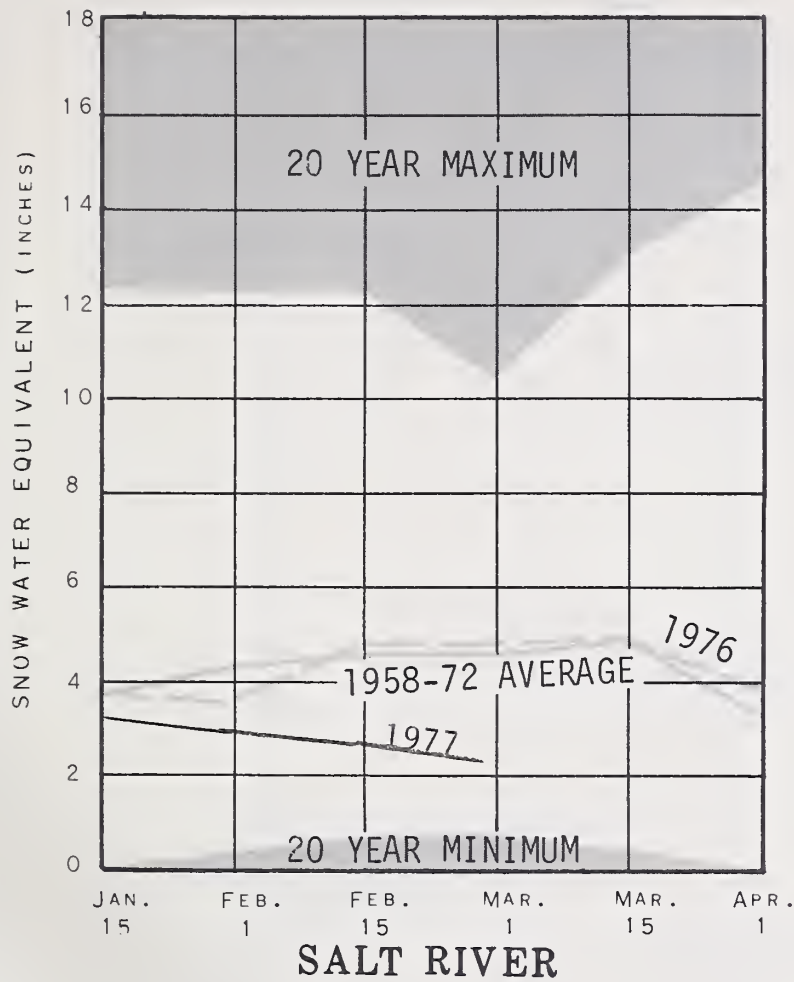
*This graph represents the average snow water content on eleven selected snow courses on Arizona Sub-Watersheds.*





1977

# WATERSHED SNOW COVER



BASED ON SELECTED SNOW SURVEY COURSES

## SUMMARY of SNOW MEASUREMENTS (COMPARISON WITH PREVIOUS YEARS) ABOUT MARCH 1, 1977

[illegible]

+ 1958-1972 period.



# WATER SUPPLY INVENTORY SALT RIVER VALLEY SYSTEM

IN ACRE-FEET

MARCH 1, 1977

3,000,000

2,500,000

AVERAGE SUPPLY  
ON MARCH 1

ANTICIPATED 1977  
SUPPLY \*

2,000,000

Average Spring  
Runoff

1,500,000

Average Summer  
Runoff

1,000,000

Average  
Storage

500,000

0

Forecast Runoff  
(March-May)  
Average Summer  
Runoff

Present Storage

Based on Present Storage + Forecast Spring Runoff + Average Summer Runoff



# SNOW

ABOUT MARCH 1, 1977

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average †
<u>GILA RIVER</u>						
Bear Wallow	8100	2/28	4	1.1	0.1	4.6
Beaver Head	8000	2/28	2	0.3	1.2	2.6
Coronado Trail	8000	2/28	1	0.2	0.3	2.6
Emory Pass #1 *	7800	2/28	0	0.0	0.0	0.0**
Emory Pass #2 *	7800	2/28	2	0.7	0.0	0.5**
Frisco Divide	8000	3/1	2	0.6	0.9	2.2
Hannagan Meadows *	9090	2/28	15	3.3	9.5	7.9**
Hummingbird (A)	10550	2/27	30	8.1	12.6	13.8**
McKnight Cabin * (A)	9300	2/27	15	4.5	---	3.2**
Mogollon	7000	2/27	0	0.0	0.0	1.4
Nutrioso	8500	2/28	2	0.4	0.8	1.7
Redstone Trail	8600	2/27	18	5.0	5.8	7.7**
Rose Canyon	7300	2/28	1	0.5	0.0	2.4
Silver Creek Divide	9000	2/27	26	7.3	8.7	11.4**
State Line	8000	3/1	1	0.2	0.8	2.1
Whitewater (A)	10750	2/27	52	10.4	15.1	17.7**
<u>VERDE RIVER</u>						
Baker Butte	7300	2/28	6	2.4	8.4	5.3**
Baker Butte #2	7700	2/28	20	6.4	17.3	---
Camp Wood	5700	2/28	0	0.0	0.0	0.5
Chalender *	7100	2/28	5	1.1	3.9	2.3
Copper Basin Divide	6720	2/28	3	1.0	T	1.2**
Fort Valley	7350	2/28	2	0.4	0.4	2.0
Gaddes Canyon	7600	2/27	12	2.6	7.2	4.7
Happy Jack	7630	2/28	7	1.5	3.4	3.0
Iron Springs *	6200	2/28	4	0.3	0.0	0.3
Mingus Mountain	7100	2/27	2	0.4	0.0	0.9
Mormon Lake *	7350	2/28	14	3.9	6.8	3.2
Mormon Mountain	7500	2/28	12	3.5	8.6	4.3
Newman Park	6750	2/28	3	0.6	1.0	1.4**
Snow Bowl #1	10260	2/28	18	4.2	9.1	8.9**
Snow Bowl #2	11000	2/28	24	5.9	14.2	15.7**
White Horse Lake Jct.	7150	2/28	2	0.8	4.4	3.0**
White Spar	6000	2/28	T	0.2	0.0	0.5**
<u>LOWER COLORADO RIVER</u>						
Bill Williams Intermediate	8550	2/28	19	4.5	11.8	7.0**
Bill Williams Summit	8950	2/28	24	5.1	15.7	11.0**
Chalender *	7100	2/28	5	1.1	3.9	2.3
Fort Valley	7350	2/28	2	0.4	0.4	2.0
Grand Canyon	7500	2/28	0	0.0	0.0	1.5
Williams Ski Run	7720	2/28	21	5.5	11.8	5.6**
Bright Angel	8400	2/28	8	3.0	8.8	---
+ 1958-72 15-year period. (*) Adjacent drainage. (**) 1958-72 Adjusted Average. (A) Aerial observation: water content estimated.						



# SNOW ABOUT MARCH 1, 1977

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average †
<u>SALT RIVER</u>						
Baldy *	9125	2/28	13	3.3	8.1	6.8
Beaver Head	8000	2/28	2	0.3	1.2	2.6
Canyon Creek	7500	2/28	8	2.4	3.8	3.0
Canyon Point	7600	2/28	11	3.5	3.8	3.6**
Coronado Trail	8000	2/28	1	0.2	0.3	2.6
Forest Dale	6430	2/28	2	0.4	0.0	0.6
Ft. Apache	9160	2/28	16	3.4	7.4	7.6
Hannagan Meadows	9090	2/28	15	3.3	9.5	7.9**
Hawley Lake	8300	2/28	16	4.8	7.5	6.2**
Heber	7600	2/28	7	2.2	2.9	3.3
Maverick Fork	9050	2/28	17	5.3	10.4	8.2
McNary	7200	2/28	4	0.9	1.0	2.1
Milk Ranch	7000	2/28	2	0.5	0.0	0.9
Mt. Ord (A)	11000	---	---	---	20.2	21.0**
Nutriososo *	8500	2/28	2	0.4	0.8	1.7
Promontory Butte	7930	2/28	23	8.2	14.7	---
Smith Cienega (A)	9850	---	---	---	15.0	---
Sunrise Summit	10600	3/1	26	7.1	13.4	---
Wilson Lake	9000	3/1	23	5.3	9.1	10.3**
Workman Creek	6900	2/28	4	1.7	6.6	4.8
<u>LITTLE COLORADO RIVER</u>						
Baldy	9125	2/28	13	3.3	8.1	6.8
Canyon Creek	7500	2/28	8	2.4	3.8	3.0
Canyon Point	7600	2/28	11	3.5	3.8	3.6**
Cheese Springs	8600	3/1	16	3.5	6.8	8.0**
Forest Dale	6430	2/28	2	0.4	0.0	0.6
Ft. Apache	9160	2/28	16	3.4	7.4	7.6
Fort Valley	7350	2/28	2	0.4	0.4	2.0
Happy Jack *	7630	2/28	7	1.5	3.4	3.0
Heber	7600	2/28	7	2.2	2.9	3.3
Inner Basin #1	10100	---	---	---	17.5	17.4**
Inner Basin #2	9750	---	---	---	12.0E	11.0**
Lake Mary	6970	2/28	7	1.4	4.9	---
McNary	7200	2/28	4	0.9	1.0	2.1
Mormon Lake	7350	2/28	14	3.9	6.8	3.2
Mormon Mountain	7500	2/28	12	3.5	8.6	4.3
Nutriososo *	8500	2/28	2	0.4	0.8	1.7
Promontory Butte	7930	2/28	23	8.2	14.7	---
Snow Bowl #1	10260	2/28	18	4.2	9.1	8.9**
Snow Bowl #2	11000	2/28	24	5.9	14.2	15.7**
Wilson Lake	9000	3/1	23	5.3	9.1	10.3**
† 1958-72 15-year period. (*) Adjacent drainage. (**) 1958-72 Adjusted Average. (A) Aerial observation: water content estimated.						

## SNOW ABOUT FEBRUARY 15, 1977

SNOW		ABOUT FEBRUARY 15, 1977		THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)			
NAME	Elevation				Last Year	Average †		
GILA RIVER								
Bear Wallow	8100	2/14	10	3.5	2.2	4.7		
Beaver Head	8000	2/14	3	0.6	1.2	3.2		
Coronado Trail	8000	2/14	1	0.3	0.2	2.8		
Emory Pass #1 *	7800	2/14	0	0.0	0.0	0.2**		
Emory Pass #2 *	7800	2/14	5	1.5	0.0	1.0**		
Frisco Divide	8000	2/14	4	0.8	1.7	2.4		
Hannagan Meadows *	9090	2/14	16	4.8	7.5	8.0**		
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McKnight Cabin * (A)	9300	2/14	14	4.2	1.2	3.5**		
Mogollon	7000	2/13	0	0.0	0.0	1.9		
Nutrioso	8500	2/14	2	0.4	1.1	1.9		
Redstone Trail	8600	2/13	20	4.7	5.9	7.2**		
Rose Canyon	7300	2/14	7	2.6	0.0	3.2		
Silver Creek Divide	9000	2/13	28	7.0	8.8	10.7**		
State Line	8000	2/14	2	0.4	1.8	2.5		
Whitewater (A)	10750	2/14	51	9.7	15.0	14.9**		
VERDE RIVER								
Baker Butte	7300	2/14	9	3.9	9.6	5.7**		
Baker Butte #2	7700	2/14	18	5.9	17.6	---		
Camp Wood	5700	2/14	0	0.0	0.0	0.5		
Chalender *	7100	2/14	5	1.2	4.1	2.5		
Copper Basin Divide	6720	2/14	2	1.1	1.6	2.0**		
Fort Valley	7350	2/14	1	0.4	1.6	2.0		
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Williams Ski Run	7720	2/14	16	4.0	11.5	5.5**		
† 1958-72 15-year period. (*) Adjacent drainage. (**) 1958-72 Adjusted Average. (A) Aerial observation: water content estimated.								

† 1958-72 15-year period. (\*) Adjacent drainage. (\*\*) 1958-72 Adjusted Average. (A) Aerial observation: water content estimated.



**SNOW** ABOUT FEBRUARY 15, 1977

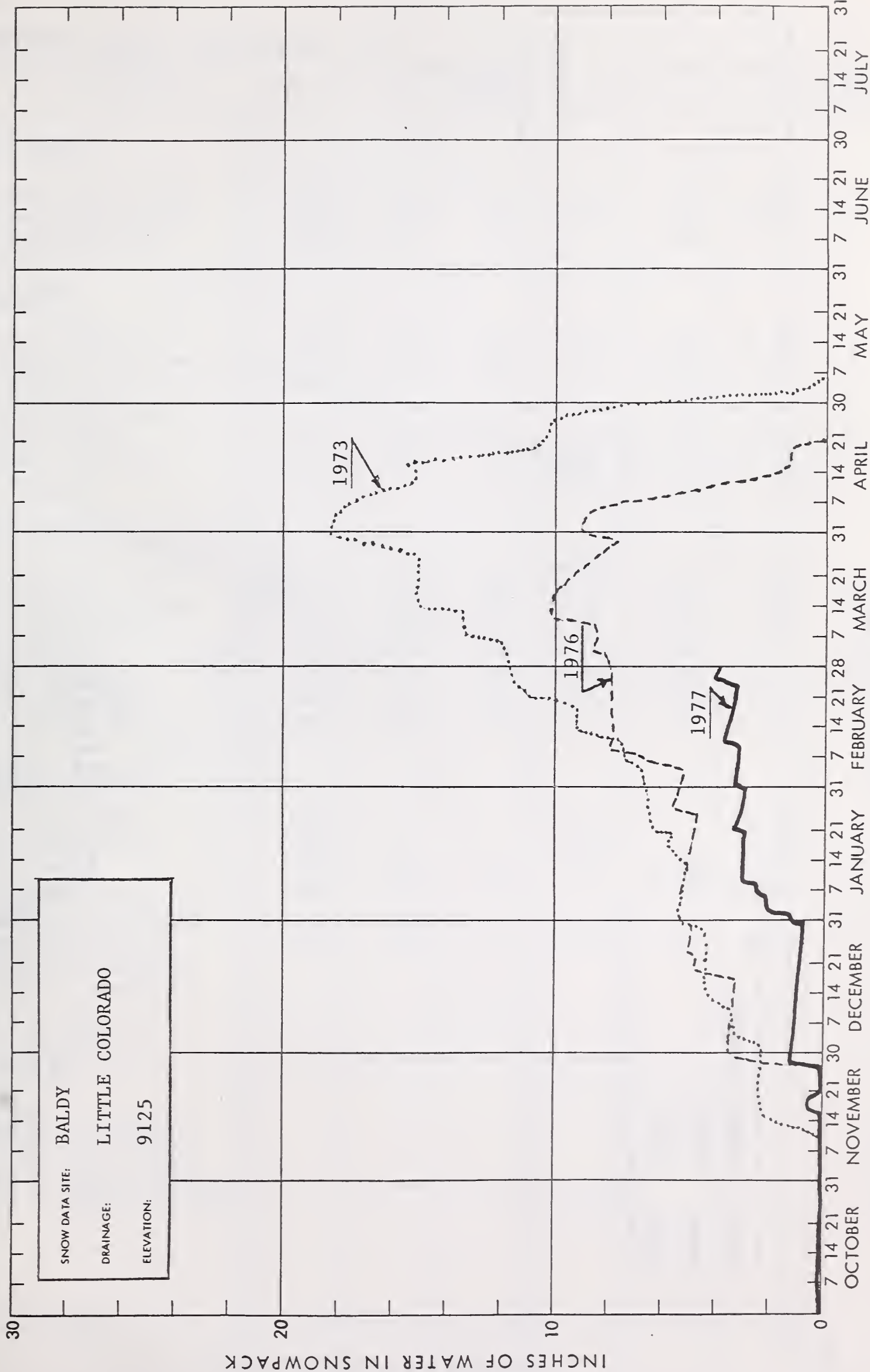
SNOW		ABOUT FEBRUARY 15, 1977		THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)			
NAME	Elevation				Last Year	Average †		
SALT RIVER								
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Beaver Head	8000	2/14	3	0.6	1.2	3.2		
Canyon Creek	7500	2/14	9	3.3	4.6	2.8		
Canyon Point	7600	2/14	13	4.3	5.2	3.0**		
Coronado Trail	8000	2/14	1	0.3	0.2	2.8		
Forest Dale	6430	2/14	0	0.0	0.0	1.1		
Ft. Apache	9160	2/14	14	2.6	7.6	6.7		
Hannagan Meadows	9090	2/14	16	4.8	7.5	8.0**		
Hawley Lake	8300	2/14	17	4.8	7.1	5.4**		
Heber	7600	2/14	10	3.5	4.4	3.2		
Maverick Fork	9050	2/14	18	4.3	9.4	7.4		
McNary	7200	2/14	3	0.8	1.2	2.6		
Milk Ranch	7000	2/14	1	0.3	0.0	1.7		
Mt. Ord (A)	11000	2/14	40	10.4	18.3	19.0**		
Nutriosos *	8500	2/14	2	0.4	1.1	1.9		
Promontory Butte	7930	2/14	24	7.8	14.4	---		
Smith Cienega (A)	9850	2/17	30	7.8	13.9	---		
Sunrise Summit	10600	2/14	23	6.0	13.5	---		
Wilson Lake	9000	2/14	20	4.7	7.8	9.2**		
Workman Creek	6900	2/15	9	3.8	7.3	5.2		
LITTLE COLORADO RIVER								
Baldy	9125	2/14	15	3.1	7.7	6.2		
Canyon Creek	7500	2/14	9	3.3	4.6	2.8		
Canyon Point	7600	2/14	13	4.3	5.2	3.0**		
Cheese Springs	8600	2/14	17	3.1	5.7	7.1**		
Forest Dale	6430	2/14	0	0.0	0.0	1.1		
Ft. Apache	9160	2/14	14	2.6	7.6	6.7		
Fort Valley	7350	2/14	1	0.4	1.6	2.0		
Happy Jack *	7630	2/14	9	3.2	4.9	3.1		
Heber	7600	2/14	10	3.5	4.4	3.2		
Lake Mary	6970	2/14	5	1.5	6.5	---		
McNary	7200	2/14	3	0.8	1.2	2.6		
Mormon Lake	7350	2/14	10	3.5	7.8	3.0		
Mormon Mountain	7500	2/14	10	3.8	9.4	3.8		
Nutriosos *	8500	2/14	2	0.4	1.1	1.9		
Promontory Butte	7930	2/14	24	7.8	14.4	---		
Snow Bowl #1	10260	2/14	12	3.1	9.6	8.1**		
Snow Bowl #2	11000	2/14	17	4.5	15.1	14.0**		
Wilson Lake	9000	2/14	20	4.7	7.8	9.2**		
+ 1958-72 15-year period. (*) Adjacent drainage. (**) 1958-72 Adjusted Average. (A) Aerial observation: water content estimated.								

† 1958-72 15-year period. (\*) Adjacent drainage. (\*\*) 1958-72 Adjusted Average. (A) Aerial observation: water content estimated.



# SNOW PILLOW DATA

1977

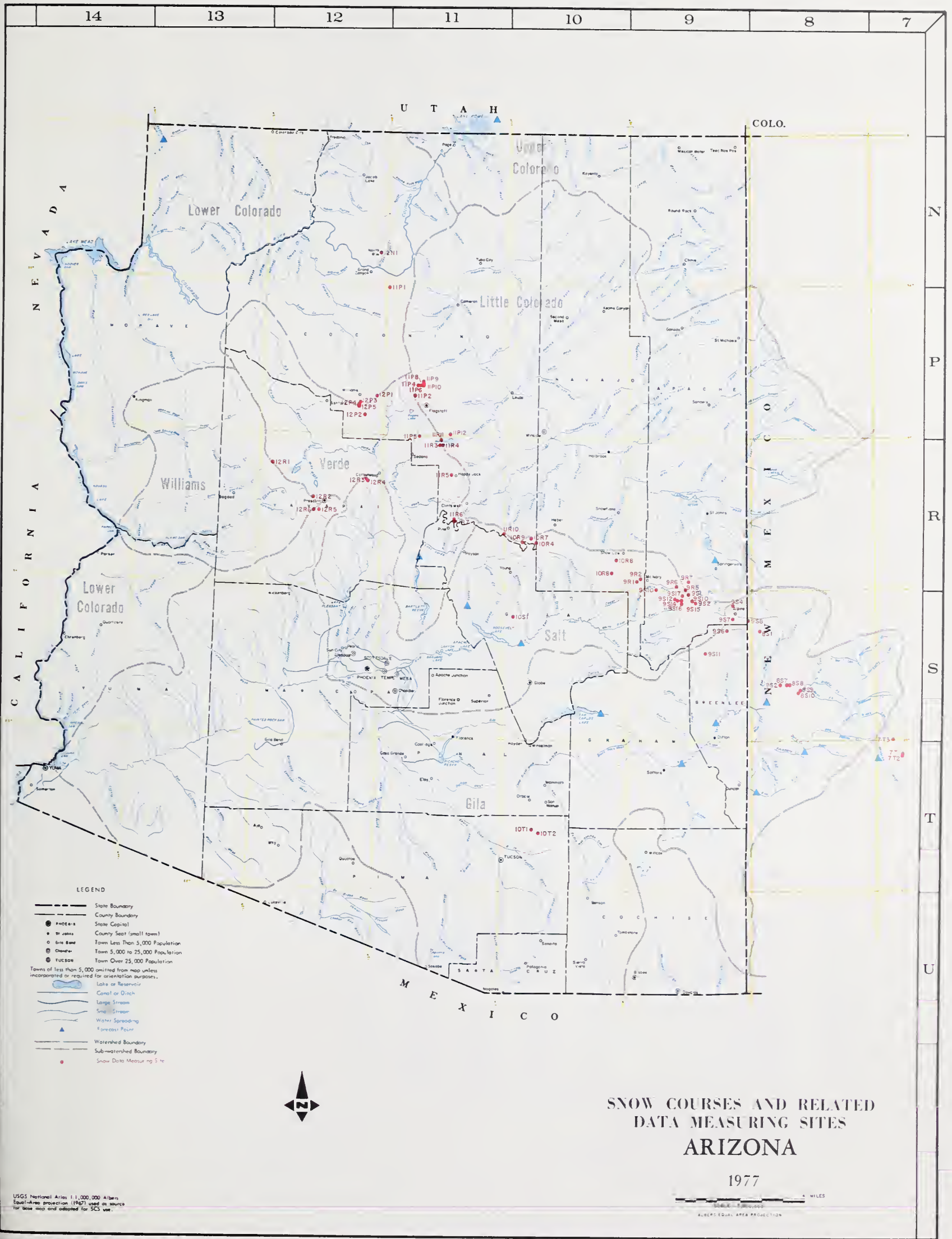


SNOW DATA SITE: BALDY  
DRAINAGE: LITTLE COLORADO  
ELEVATION: 9125

INCHES OF WATER IN SNOWPACK

# SOIL MOISTURE ABOUT MARCH 1, 1977

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average †
<u>GILA RIVER</u>							
Frisco Divide	8000	48	13.3	3/1	6.4	11.5	10.5
<u>SALT RIVER</u>							
Black River Divide	9100	48	16.8	2/28	16.7	17.3	16.5
Canyon Creek	7500	48	18.3	2/28	16.5	18.1	16.0
Corduroy Creek	6000	36	13.5	2/28	7.9	14.6	9.7
McNary	7200	48	16.3	3/1	14.0	17.9	15.2
<u>VERDE RIVER</u>							
Mormon Mountain	7500	48	16.1	2/28	14.0	17.0	16.0
Newman Park	6750	48	17.7	2/28	13.5	19.5	17.1
† 1958-72 15-year average.							



LEGEND

- State Boundary
- County Boundary
- State Capital
- County Seat (small town)
- Town Less Than 5,000 Population
- Town 5,000 to 25,000 Population
- Town Over 25,000 Population
- Towns of less than 5,000 omitted from map unless incorporated or required for orientation purposes.
- Lake or Reservoir
- Canal or Ditch
- Large Stream
- Small Stream
- Water Spreading
- Forecast Point
- Watershed Boundary
- Sub-watershed Boundary
- Snow Data Measuring Site

SNOW COURSES AND RELATED  
DATA MEASURING SITES  
ARIZONA

1977





# INDEX to SNOW COURSES and SOIL MOISTURE STATIONS

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.	DRAINAGE	OBSERVER	RECORD BEGAN
11P10A	Agassiz	32	23N	7E	11200	Little Colorado	SCS-CF*	1968
11R7	Baker Butte #2	9	12N	9E	7700	Verde	SCS	1971
11R6PSPRT	Baker Butte	4	12N	9E	7300	Verde	SCS	1966
9S1APSPRT	Baldy	28	7N	27E	9125	Little Colorado	SCS	1950
9S15	Baldy #2	12	6N	26E	9750	Little Colorado	SCS	1963
9S16	Baldy #3	13	6N	26E	10950	Little Colorado	SCS	1963
10T1	Bear Wallow	6	12S	16E	8100	Gila	FS	1948
9S6	Beaver Head	13	4N	30E	8000	San Francisco	FS	1938
12P5	Bill William Intermediate	17	21N	2E	8550	Cataract	FS	1967
12P4	Bill Williams Summit	17	21N	2E	8950	Verde	FS	1967
9S10m	Black River Divide	10	6N	27E	9400	Salt	SCS	1954
12N1	Bright Angel	34	33N	3E	8400	Bright Angel Creek	NPS	1947
12R1	Camp Wood	3	16N	6W	5700	Verde	FS	1946
10R7M	Canyon Creek #2	18	11N	15E	7500	Little Colorado	SCS	1958
10R9P	Canyon Point	28	11N	14E	7600	Salt	SCS	1967
12P1M	Chalender	27	22N	3E	7100	Verde	FS	1947
9R7	Cheese Springs	28	8N	27E	8600	Little Colorado	SCS	1969
12R6P	Copper Basin Divide	23	13N	3W	6720	Verde	SCS	1963
10R8m	Corduoy Creek	4	8N	21E	6000	Salt	SCS	1954
9S7	Coronado Trail	26	5N	30E	8000	San Francisco	FS	1938
7T1	Emory Pass #1	16	16S	9W**	7800	Mimbres	SCS	1967
7T2	Emory Pass #2	16	16S	9W**	7800	Mimbres	SCS	1967
10R6	Forest Dale	2	9N	21E	6430	Salt	BIA	1939
9R5	Ft. Apache	18	7N	27E	9160	Little Colorado	SCS	1951
11P2P	Ft. Valley	22	22N	6E	7350	Little Colorado	FS	1947
8S1MP	Frisco Divide	31	6S	20W**	8000	San Francisco	FS	1938
12R4	Gaddes Canyon	11	15N	2E	7600	Verde	SCS	1954
11P1	Grand Canyon	21	30N	4E	7500	Hance Creek	NPS	1947
9S11P	Hannagan Meadows	19	3N	29E	9090	San Francisco	FS	1964
11R5P	Happy Jack	30	16N	9E	7630	Verde	FS	1951
9R10	Hawley Lake	13	7N	24E	8300	Salt	BIA	1966
10R4PSP	Heber	28	11N	15E	7600	Little Colorado	SCS	1950
8S9A	Hummingbird	19	11S	17W**	10550	Gila	SCS	1964
11P9P	Inner Basin #1	28	23N	7E	10000	Little Colorado	SCS	1967
11P8P	Inner Basin #2	28	23N	7E	9750	Little Colorado	SCS	1967
12R2	Iron Springs	22	14N	3W	6200	Little Colorado	SCS	1946
11P12	Lake Mary	21	19N	9E	6930	Little Colorado	SCS	1975
9S2APSPRT	Maverick Fork	13	6N	27E	9150	Salt	SCS	1950
7S3A	McKnight Cabin	10	15S	10W**	9300	Mimbres	SCS	1967
9R2MPSPRT	McNary	23	8N	23E	7200	Salt	BIA	1939
9R1	Milk Ranch	33	8N	23E	7000	Salt	BIA	1941
12R3	Mingus Mountain	3	15N	2E	7100	Verde	SCS	1947
8S2	Mogollon	2	11S	19W**	7000	San Francisco	SCS	1953
11R4	Mormon Lake	13	18N	8E	7350	Little Colorado	SCS	1947
11R3MAPSPRT	Mormon Mountain	14	18N	8E	7500	Verde	SCS	1950
11R11	Mormon Mountain Summit	2	18N	8E	8470	Little Colorado	SCS	1975
9S12A	Mt. Ord	4	6N	26E	11200	Salt	SRP-SCS	1966
11P5M	Newman Park	25	19N	6E	6750	Verde	SCS	1963
9S4	Nutrioso	23	6N	30E	8500	San Francisco	FS	1938
11R10	Promotory Butte	5	11N	13E	7930	Little Colorado	SCS	1973
8S7	Redstone Trail	5	11S	18W**	8600	San Francisco	SCS	1961
10T2	Rose Canyon	15	12S	16E	7300	Gila	FS	1948
8S8PSPRT	Silver Creek Divide	4	11S	18W**	9000	San Francisco	SCS	1964
9S14A	Smith Cienega	10	6N	26E	10050	Salt	SRP-SCS	1966
11P4	Snow Bowl #1	36	23N	6E	10260	Verde	FS	1961
11P6	Snow Bowl #2	31	23N	7E	11000	Verde	FS	1965
9S8	State Line	6	6S	21W**	8000	San Francisco	FS	1938
9S17	Sunrise Summit	36	7N	26E	10600	Salt	SCS	1972
12P2P	White Horse Lake Jct.	2	20N	2E	7180	Verde	FS	1967
12R5	White Spar	19	13N	2W	6000	Verde	SCS	1963
8S10A	Whitewater	19	11S	17W**	10750	Gila	SCS	1964
12P3	Williams Ski Run	9	21N	2E	7720	Cataract	FS	1967
9R6P	Wilson Lake	4	7N	26E	9000	Salt	SCS	1966
10S1P	Workman Creek	33	6N	14E	6900	Salt	FS	1952

A Aerial Snow Depth Marker  
M Soil Moisture Station  
m Soil Moisture Station Only  
P Precipitation Storage Gage  
R Radio Telemetry

SP Snow Pressure Pillow  
T Temperature  
\*\* NM Principal Meridian  
\* City of Flagstaff



# The Following Organizations Cooperate in the Arizona Snow Survey Work

## FEDERAL

- Department of Agriculture
  - Soil Conservation Service
  - Forest Service
    - Apache-Sitgreaves Forest
    - Coconino Forest
    - Coronado Forest
    - Gila Forest
    - Kaibab Forest
    - Prescott Forest
    - Rocky Mountain Forest and Range Experiment Station
    - Tonto Forest
- Department of Commerce
  - NOAA, National Weather Service
- Department of Interior
  - Bureau of Reclamation
    - Region 111
  - Geological Survey
    - Arizona District
    - New Mexico District
  - Bureau of Indian Affairs
    - Fort Apache Reservation
    - San Carlos Irrigation Project
  - National Park Service
    - Grand Canyon National Park
- Gila Water Commissioner
  - Safford, Arizona

## STATE

- Arizona Game and Fish Department
- Arizona State Parks Board
- Arizona Water Commission
- University of Arizona
  - Arizona Agricultural Experiment Station
  - Water Resource Research Center
  - Department of Watershed Management

## MUNICIPAL

- City of Flagstaff

## IRRIGATION PROJECTS

- Salt River Valley Water User's Association
  - Phoenix, Arizona
- San Carlos Irrigation and Drainage District
  - Coolidge, Arizona
- Maricopa County Municipal Water Conservation District

## PRIVATE

- Southwest Forest Industries, Inc.
  - McNary, Arizona
- Fort Apache Indian Reservation
  - White Mountain Recreation Enterprises

Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

UNITED STATES DEPARTMENT OF AGRICULTURE  
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PHOENIX, ARIZONA 85025  
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## FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Furnishes the basic data  
necessary for forecasting  
water supply for irrigation,  
domestic and municipal water  
supply, hydro-electric power  
generation, navigation,  
mining and industry

*"The Conservation of Water begins  
with the Snow Survey"*